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ABSTRACT

This monograph describes the basic physical/neurological examination of children with special needs and how such an exam fits into the multidisciplinary evaluation and development of individualized programming for such children. The first section addresses the importance of the medical history. Next, the basic exam is described, followed by consideration of communication between the physician and parents, subsequent clinic visits, and a brief consideration of common neurologic tests such as the computerized tomography (CT) scan and magnetic resonancy imaging (MRI) of the brain. Briefly summarized are common medications prescribed, especially anticonvulsants, and common diagnoses (e.g., hyperactivity, cerebral palsy, and seizure disorders). The importance of school-generated information for the physician and parental responsibilities in the medical management of the child are also stressed. (DB)

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The Medical Evaluation of the Special Child: A Guide for Parents and Teachers[1]

Cindy Eddleton, M.D.
Pediatric Fellow

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MULTIDISCIPLINARY DIAGNOSTIC AND TRAINING PROGRAM

UNIVERSITY OF FLORIDA

EC 301 779

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The Medical Evaluation of the Special Child: A Guide for Parents and Teachers[1]

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Monograph #24

August, 1989

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THE UNIVERSITY OF FLORIDA
MULTIDISCIPLINARY DIAGNOSTIC AND TRAINING PROGRAM (MDTP)

The MDTP is administered through a joint effort by the Department of Pediatrics and the Department of Special Education at the University of Florida. The MDTP staff is composed of professionals from the fields of pediatric neurology, education, school psychology, and speech and language pathology. The MDTP has specified the elementary school student with complex medical, learning and/or behavioral problems as its primary population. Major responsibilities of the MDTP are to use all appropriate disciplines to provide diagnostic and intervention services to school systems referring students, train education and health professionals at the preservice and inservice level, and assist parents of students experiencing difficulty in school.

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PREFACE

Parents and teachers frequently have many questions about the physical/neurological exam and how to best cooperate with physicians serving special needs children. This monograph describes the basic exam, common neurologic tests and medications. It is written as a general guide and not a detailed resource book.

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The Medical Evaluation of the Special Child: A Guide for Parents and Teachers

Introduction

Children with school problems are a challenge to parents, teachers and the physician. It has been the experience of the Multidisciplinary Diagnostic and Training Program (MDTP) that most children benefit from a team approach to their problems. In this way, the underlying cause of the child's difficulty can be identified so that a program of interventions tailored to the unique needs of the individual child can be designed and implemented. It is the role of the physician, as a member of this team, to identify any medical conditions which may be contributing to the child's school problems. If a medical condition exists, the physician may serve as a referral source and as a coordinator for access to the health care system. In this way the child is provided with additional evaluations, referrals to subspecialists, and/or referrals to the health related professions (such as physical therapy) when these services are needed.

This monograph presents the medical evaluation of children and is intended for use by parents and teachers. At the MDTP information gathered by the physician is presented at a case conference together with evaluations from psychology, communicative disorders, the educational diagnostician and the school. This multi-faceted look at the child's problems provides an understanding of the child in a holistic way and is the foundation for an individualized program of recommendations and interventions. The goal is to design a program for the child to enable him or her to overcome school difficulties, maximize his/her potential, and experience increased success at school and home.

The First Step in the Evaluation: The Medical History

The child with a learning problem may come to medical attention through a variety of channels including referrals from teachers, school psychologists, guidance counselors, and health care workers. Once the child is brought to the attention of a physician for a learning problem (with or without other medical problems) the physician will attempt to assess the child from a medical and developmental point of view. Therefore, parents should be prepared to answer questions about the child's history beginning with the mother's pregnancy. Details will be asked about the pregnancy, labor, delivery, and achievement of the child's developmental milestones. Information about the child's speech and language emergence will be sought as well as information about the child's environment. The parent can expect to be asked about the home environment. Factors such as sibling rivalry, marital stress, absent or working parents, loss of a family member, or other information about factors related to the home will help medical personnel understand the child and his/her social-emotional development. Parents should expect to be asked details about the child's medical background including immunizations, allergies, and previous accidents, injuries, or medical problems. If medical evaluations have been performed in the past it is helpful to bring the medical records to the clinic at the time of the evaluation.

Because the most important aspect of the medical evaluation is the history, reasons for some of the questions asked of parents will be presented briefly. Details about the pregnancy, labor, and delivery are important because these may provide clues as to whether a neurologic injury may have occurred during these times. Some common problems during the

pregnancy which are danger signals for a baby include: (1) lack of prenatal care in the mother, (2) bleeding or infections in the mother, (3) maternal hypertension, (4) excessive weight gain or poor weight gain during pregnancy, and (5) maternal use of tobacco, alcohol, or drugs during pregnancy. At the time of delivery, a history of labor which is either prolonged or very rapid are of concern. If the child experienced a difficult delivery and forceps needed to be used, if an emergency Cesarean section was performed, or there was any evidence of insufficient oxygen to the baby at the time of birth are noteworthy concerns. Other warning signals which are sought in the history include a baby who needs to be resuscitated at the time of birth, and a baby who is excessively floppy, has a poor suck, or has a poor cry. Basically any medical concerns which may have arisen during the pregnancy, delivery, or shortly after birth will be of interest to the physician evaluating the child from a neurologic standpoint.

Medical history of loss of consciousness, staring spells, or blows to the head are important for the physician to know when evaluating a child for possible neurologic problems. Any medical problems which may effect the child's performance in school such as recurrent ear infections and breathing problems are additional examples of information vital to the medical history. As mentioned earlier, understanding the child's home environment and social history are considered essential in evaluating the medically at-risk child with a learning or behavioral adjustment problem. Questions are considered part of all thorough medical histories. It is worthwhile to note environmental and social-developmental information is

considered confidential by the health team and is not released without parental permission.

The Physical and Neurological Examination

Physical examinations of the organ systems will be described in this section, and a brief example of possible abnormalities which might be significant will be given. The purpose of the physical exam is to review all major organ systems of the body including the nervous system. The child's history usually is reviewed with the parents prior to the physical exam so that particular attention can be given to possible areas of concern. The physical exam often begins with the head, eyes, ears, nose, and throat (HEENT) examinations. The size and shape of the head are assessed to determine if they fall within the normal range. A head size which is too large, too small, or abnormally shaped may be a clue to an underlying nervous system problem. The ears are examined. If a child is found to have recurrent episodes of ear infections, the tympanic membranes (eardrums) may appear scarred when viewed through the otoscope. A visual acuity screening may be performed using an eye chart with letters, numbers, or pictures.

The eye itself is examined using an ophthalmoscope. The ophthalmoscope is used to look into the back of the eyeball (funduscopic examination) at the head of the optic nerve. This is possible because the pupil is like a window with the cornea and lens being similar to the glass pane of a window. The light source from the ophthalmoscope shines through the cornea, pupil, and lens to allow observation of the optic nerve as it enters the back of the eyeball. This is the only place in the body where actual nerve tissue can be observed directly in a noninvasive way. The head of the optic nerve,

called the optic disc, has the appearance of a white saucer on a background of the red retina. Blood vessels also can be directly observed as they cross the optic disc and the retina at the back of the eye.

A great deal of information can be obtained from the eye examination, and it is considered crucial to a neurologic assessment. For example, in hydrocephalus (sometimes called "water on the brain") the configuration of the optic disc may be abnormal due to increased pressure on the brain which is transmitted to the optic nerve. In addition, diseases such as diabetes mellitus and hypertension can produce adverse effects on the blood vessels and these effects can sometimes be observed when the eye is examined.

Some infections which occur before the child is born can be revealed through abnormal findings in the eye examination. Toxoplasmosis is an example of one congenital infection which can be responsible for brain damage in the infant.

A general physical exam follows the eye exam and includes a look at the ears, nose, and throat. An examination of the neck includes feeling (palpation) of the thyroid gland, which can be enlarged in conditions where either too little or too much thyroid hormone is being produced. Too much thyroid hormone (hyperthyroidism) can be a cause of hyperactivity, and too little hormone (hypothyroidism) can cause decreased activity and mental retardation in infants. Lymph nodes are the round, spongy "glands" in the neck which frequently are noticed by parents. Lymph nodes often become painful and enlarged in children in response to infections. These glands represent lymphoid tissue (similar to the tonsils) which become enlarged when the immune system is fighting an infection. The enlarged nodes are a symptom (like fever) and reveal that the body is doing its job. The nodes

are not a concern unless they are persistently enlarged or they are unusual in size or consistency. Another cause of enlarged lymph nodes is the anticonvulsant (anti-seizure) medication, Dilantin. Typically this is not a major concern, but illustrates that children need close medical follow-up when they are being treated with medication.

The lungs and heart will routinely be examined next. Obviously, chronic heart or lung conditions, such as birth defects of the heart (congenital heart disease) or asthma, and the medications used to treat these conditions may have an effect on learning or behavior.

Examination of the abdomen is particularly important for children who are receiving anticonvulsant medication, because many of these drugs can affect the liver. The size of the liver will be estimated using palpation and often percussion (tapping) on the right side of the abdomen just under the rib cage. Since the liver functions to metabolize many drugs and products of digestion, it can be thought of as a processing plant which becomes enlarged and sometimes tender when it is injured or overworked. Blood tests which measure the levels of liver enzymes in the blood are regularly checked when anticonvulsants are used. Blood tests are an early way to predict whether the liver is at-risk for becoming injured by the medication. If the enzyme levels in the blood begin to rise, the medication dosage may be lowered or discontinued by the physician. The size of the spleen is assessed in a manner similar to the liver, only on the left side of the abdomen. The abdomen also is assessed to ensure that it is soft and nontender, that bowel sounds are present, and that no masses are palpable. The abdomen may become tight or tender in a variety of illnesses such as appendicitis.

The genitalia are examined for problems such as an undescended testes in the male or hernias. Endocrine (hormonal) problems may be reflected in an abnormal genital exam. Sexual development is assessed using a sexual maturity rating scale developed by J.M. Tanner, M.D. The pubic hair and breasts in females are rated, and the genitalia and pubic hair in males are rated using a scale from one to five. A rating of one represents the prepubertal state, and a five signifies full sexual maturity. Stage two represents early adolescence with sparse pubic hair and breast bud development. Stages three and four correspond to middle adolescence and represent the continuum of sexual development as it progresses to full maturity (stage five).

The skin exam includes a look for unusual rashes or pigmentation areas which may be present with diseases such as tuberous sclerosis or neurofibromatosis--diseases which may cause seizures and mental handicaps. Other useful information about the child can be gleaned from a skin examination. For example, a very hyperactive youngster often will have many cuts and bruises especially on the shins and elbows reflecting the impulsivity and lack of insight and judgement which often accompanies the hyperactivity. Evidence of nailbiting is another incidental physical finding frequently associated with hyperactivity.

Examination of the musculoskeletal system includes a look at the spine for evidence of curvature. An "S" shaped curvature is called scoliosis and a "hump back" curvature is called kyphosis. Other abnormalities which will be detected include abnormal fusion of the vertebra in the back which can sometimes be palpated, or a hairy patch over the lower spine (sacrum) which may be a sign of an underlying abnormality of the spinal cord.

The neurologic exam is composed of several major parts and is quite detailed. Since different parts of the brain and spinal cord enable us to perform specific tasks, such as visually tracking a moving target or maintaining balance with our eyes closed, the nervous system can be examined so that an abnormality in a specific area, such as an inability to coordinate eye movements, can provide a clue about which area of the brain or spinal cord may be diseased or damaged. Further testing, such as specialized x-rays, can then be directed toward a localized area of suspected disease or injury. An example of how this works would be a child noted to have weakness in the right arm and leg and language problems. These symptoms suggest abnormality of the left side of the brain. Specialized x-ray pictures are needed to make a definitive diagnosis.

The first part of the neurologic exam is called the mental status exam which means observing the higher functions of the brain. For example, alertness, orientation to person, place and time, and achievement of a developmentally appropriate understanding of the world in general are assessed. Next, the cranial nerves are examined. The cranial nerves originate in the brain stem and travel to areas of the head which control movements such as facial expression and eye movements, sensations such as vision, taste, hearing, and smell, and reflexes such as pupillary responses and the blink reflex. The twelve cranial nerves are examined one at a time. Cranial nerves may be abnormal due to a variety of conditions affecting the central nervous system (the brain and spinal cord) including a birth defect or injury, tumor, hydrocephalus, or infection. The third part of the neurologic exam is the assessment of the motor system, including both gross motor (large muscle) development such as running and skipping, and fine

motor development such as pencil grip and finger movements. Muscle strength and tone as well as symmetry of strength and tone are all noted. Balance and coordination also are observed. An abnormality may indicate a malformed or diseased cerebellum, which is located near the base of the brain.

The sensory exam includes assessment of the nerve endings which permit the child to identify soft touch and pinprick sensation. Finally, the reflexes are tested at the knees, elbows, biceps, ankles, and wrists. The involuntary movements which occur when the tendons are tapped is a result of tension on the attached muscle, which sends a signal to the spinal cord. The spinal cord sends a reflex signal to the muscle telling it to move without "consulting" the brain. The Babinski reflex is obtained by stroking the bottom of the foot while looking for upward movement of the great toe. A positive Babinski (the toe moves up) is sometimes seen in cerebral palsy. "Clonus" or a beating movement of the foot or hand after it is moved rapidly upward is looked for after the reflexes are checked. Muscle spasticity, clonus, and brisk reflexes often are present in children who have cerebral palsy.

Talking With the Physician

Following the history and physical examination, an opportunity is provided for questions and answers between the physician and parents. At this time any abnormal finding or concerns are discussed and any further testing recommended. Even with a fairly normal physical exam further testing may be recommended on the basis of the history. For example, in a child who is having frequent staring spells and poor school performance, an EEG may be recommended to look at the possibility of seizures. A child may

be experiencing minimal difficulties but the neurological exam may be slightly abnormal and specialized pictures of the brain such as those which can be obtained by computerized tomography (CT) or magnetic resonance imaging (MRI) may be recommended. The CT and MRI brain scans help answer questions about the abnormal neurologic examination.

Subsequent Clinic Visits

Frequently the child will be asked to return to the physician after the initial assessment so that a follow-up on the child's progress can be made. It is important for parents to take advantage of subsequent visits and build an ongoing relationship with the physician. Honest feedback regarding medical and/or other interventions (e.g., behavioral) is very important, particularly if the interventions do not seem to be working. The physician frequently depends entirely on parent feedback to decide whether to try a new strategy with a child. Parent feedback is invaluable when a medical or neurological problem exists, but it is also important for the child who is normal medically but struggling in school. Medical follow-up usually continues as long as the parents desire. As progress is made and the parent and physician feel that things are going well, the child may be taken back to the physician only as problems/questions arise. A number of agencies in Florida such as Children's Medical Services (CMS) have been set up to ensure that the children receive the medical care they need regardless of the parents' financial situation.

Common Neurologic Tests

Some of the tests which are commonly obtained if a neurological problem is suspected are an electroencephalogram (EEG), a computerized tomography or CT scan (CT), and Magnetic Resonancy Imaging (MRI) of the brain. These tests will be briefly described: An EEG is performed by placing wires on designated locations on the scalp. The wires are attached using a sticky substance (this is not painful). The wires measure the electrical activity of the brain in the same way that an electrocardiogram (EKG) measures the electrical activity of the heart. The brain waves will look abnormal or asymmetric in many cases if a seizure disorder is present. However, the EEG is not absolute, and it is possible to have a normal EEG and still have a problem with seizures. For this reason, if seizures are strongly suspected a series of EEGs or a prolonged EEG may need to be done before the abnormality is detected.

As noted a CT scan is a specialized x-ray of the head. In this x-ray multiple views are taken of the head. Special techniques are used to x-ray the brain rather than the bone of the skull. A computer is then used to put all of the information from these multiple x-rays into a picture of the brain. In order to visualize the blood vessels more clearly, a dye is sometimes injected into a vein in the arm just prior to the X-ray.

Magnetic Resonance Imaging (MRI) is a newer technique than the CT scan. In this technique the magnetic field which is present in molecules "resonates" when the head is placed near a large magnet. A computer uses the resonance information to create a rather amazing picture of the brain. The benefits of the MRI are that it does not involve radiation exposure, and it is not necessary to inject a dye into the vein.

Medications

Some of the medications most often asked about are anticonvulsants (medicines which control seizures) and medications such as Ritalin used for hyperactivity. Ritalin is a medication frequently requested by parents and teachers to control the behavior of hyperactive children. Ritalin usually is reserved for children with the most severe hyperactivity as it can cause problems with appetite, growth, and tics. A syndrome of tics and abnormal vocalizations called "Tourette's Syndrome" may or may not be associated with the use of Ritalin. Children with hyperactivity often have what is known as an attention deficit disorder (ADD). This disorder is characterized by short attention span, impulsivity, distractibility, and lack of insight and judgement. Attention deficit disorder can occur with or without hyperactivity, and it is best managed by manipulation of the environment (e.g., decreasing the distracting auditory and visual stimulation, reinforcing attending, and so on). The use of a structured environment, limit setting and behavior modification techniques are essential when dealing with children who have attention deficit disorder.

Anticonvulsant Medications

Dilantin, Depakene, Phenobarbital and Tegretol are anticonvulsants known to affect school performance in some children. Any of the anticonvulsants can cause tiredness or lethargy. Phenobarbital can cause lethargy in some children and hyperactivity in others. The hyperactive side-effects of Phenobarbital seem to occur more frequently in children who have a tendency toward hyperactive behavior prior to being placed on the medication. Depakene can be associated with emotional lability (i.e., rapid and/or intense shifts in mood). Anticonvulsants can occasionally cause

problems with bone marrow, liver, or gastrointestinal side effects. Therefore, parents and teachers always should be looking for easy bruisability, jaundice, or gastrointestinal symptoms. These symptoms should be reported to the child's physician.

Blood samples need to be checked periodically to monitor possible effects of anticonvulsants on the liver and bone marrow and to make sure the drug level is in the therapeutic range. The physician will need feedback from the parents and teachers about the effect of medications on behavior to arrive at the optimal dose, as this will vary from child to child. Parents and teachers are strongly encouraged to document their observations. Recording behavioral observations is critical for the child who is being treated for hyperactivity or seizures. Behavioral accounts can be entered directly on a calendar and reported to the physician. For example, feedback about the frequency of staring spells for a child with petit mal seizures is vital for the dose adjustment.

Observational information may not be available from the parents, particularly if they are both working or one parent is absent. Consequently, the teacher may be the primary observer of the child's behavior or symptoms. In this way teachers can contribute invaluably to the treatment of the child. Teachers may share their written observations with parents or directly contact the physician if this agreement has been made earlier with the parents.

Common Diagnoses

Some common diagnoses about which parents and teachers often ask include hyperactivity, cerebral palsy (CP), and seizure disorders.

Hyperactivity was briefly mentioned above. Cerebral palsy results from an injury to the brain during fetal development or near the time of birth. Cerebral palsy is an injury to the brain which is nonprogressive in nature. The injury usually involves the motor areas of the brain. Therefore, children with CP frequently have difficulties with fine or gross motor control, but have intellectual functioning which is unimpaired. The more severe the cerebral palsy, the more likely that other areas in addition to the motor cortex are involved. Some children with mild CP may have nothing more than brisk reflexes or a slightly increased or decreased muscle tone on physical exam. These children may have subtle difficulties such as problems with pencil grip or slow or awkward handwriting. Some children may have mild difficulties with speech or swallowing as a manifestation of cerebral palsy. It is important to remember that CP is not progressive and that rehabilitative exercises or techniques frequently improve or overcome motor handicaps.

Seizures are the result of abnormal electrical activity in the brain and can involve any area of the brain. Since any area of the brain may be involved during a seizure, seizures can be manifested by a wide variety of symptoms. The most familiar types of seizures are either petit mal, a staring type of seizure, or grand mal, seizures which involve jerking movements of the entire body and temporary unconsciousness. Seizures occurring in the side of the brain (temporal lobe) may result in bizarre stereotypic behaviors such as picking at clothing and smacking the lips. An example of a more unusual manifestation of seizures is abdominal pain, flushing of the face, or paleness. Headaches can accompany abnormal brain wave activity and are sometimes alleviated with the use of anticonvulsants.

Indeed, anticonvulsants may reduce headaches whether or not overt seizures are present. Children with abnormal EEGs often improve in concentration and school performance when anticonvulsant medications are initiated.

The School is Part of the Management Team

The importance of school generated data to the physician who is attempting to identify and treat the child's medical problems cannot be over emphasized. As mentioned earlier parents are often working and do not spend prolonged periods of time observing the child. Therefore, the classroom is the most appropriate place for observations to occur. Good communication between the child, parent, teacher and the physician increases the likelihood of a successful outcome for the child. Communication can be enhanced by school personnel informing the parent of their willingness and desire to provide input and feedback. Formal and informal interactions (face-to-face or written) can be used to discuss the child, the medication, and behavioral observations. Teachers should keep parents informed of their classroom observations on a regular basis, and seek permission to directly call or write to the physician. Any contacts to the physician should be shared with the parents. The school nurse, psychologist and/or guidance counselor should confer with teacher and parents to support their efforts and discuss their observations. The teacher should take an opportunity to ask the child about his/her feelings and general health. All members of the team need to remember to maintain confidentiality. In some cases, parents or child are willing and/or want to educate others about the problem. The physician, school nurse, or other medically informed person can be scheduled

to present to the class. Topics include brain development, medications, and individual differences are informative for students of all ages.

The Family

Parent responsibilities in the medical management of the child with a learning, behavior and/or medical problem include being a good observer and good historian. Complete and accurate data concerning medical history, developmental milestones, and school history are very important. Other responsibilities include taking the time to schedule the child, taking the child to the medical evaluation and providing the physician with insight into the nature of the child's problems. The parent's insight can be very worthwhile diagnostically to the physician, as no one understands a child as well as the parents. Simply stated, the opinion and ideas of parents are extremely valuable in establishing and managing a medical treatment plan.

Good communication between the parent and child is essential so that the child can contribute to the ability of the team to understand him or her. Parent-child communication is enhanced when the child is part of a safe, non-threatening, loving, structured home environment where the child has limits and knows what is expected of him or her. The importance of parents becoming good behavior managers cannot be over emphasized. A number of books are devoted to behavior management and creating positive home environments. Appendix A has a short bibliography of a number of books recognized as useful to parents, school personnel and physicians alike.

Ross and Candelario (1983) maintain that there are 3 S's which are the keys to motivating children: structure, success, and support. Basically, a structured home in which activities and events occur at predictably

scheduled times is beneficial to most children. The successes of the child need to be rewarded at each step along the way. This means that one needs to know specifically where the child is in a particular area and then proceed to reward each successive achievement until the final goal is reached. Rewards can be as simple as saying, "I'm proud of the way you read that sentence." Support means demonstrating a genuine interest and concern in the daily activities and successes of the child. Praises and rewards are much more powerful motivators than negative consequences, and specific praise directed at a particular behavior or activity builds self esteem as well. Research reported by Nelson (1987) in the Textbook of Pediatrics shows that physical punishment is detrimental to self esteem and establishing desired behavior after the age of 5 years. Allowing the child to assume responsibility (as much as possible) for his or her own management gives a child a sense of control. For example, children can begin by being rewarded for remembering when their medication needs to be taken even if they are too young to administer it themselves. Gradually over time children should be able to assume more and more responsibility for their medication and medical management.

SUMMARY

The medical-neurological examination is essential to understanding the treating of children with known or suspected medical, learning, and behavior difficulties. Parents, teachers, and physicians must function as a team for the child to receive the best medical and educational treatment/intervention plan. Parents have an especially important role in helping the physician assess the whole child. In short, a multidisciplinary approach which includes the parents is strongly advocated.

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1. Behrman, Richard E.; Vaughan, Victor C.; & Nelson, Waldo E., (1987) Nelson's Testbook of Pediatrics—Thirteenth Edition, W.B. Saunders Company, Philadelphia, PA
2. Ross, J.J.; & Candelario, N. (1983). The University of Florida Multidisciplinary Diagnostic and Training Program. Journal of the Florida Medical Association, 70 (4), 278-287

Appendix A

Reading Lists for Parents and Teachers

BOOKLIST—LEARNING DISABILITIES

1. Children with Learning Disabilities
   by Janet Lerner
   Houghton-Mifflin Co.
   One Beacon Street
   Boston, MA 02107

2. Developmental Disability: A Family Challenge
   by MT Hegeman
   Paulist Press, 1984
   New York
   $8.95

3. Teaching Children with Learning and Behavior Problems
   by Don Hammill & Nettie Bartel
   Allyn & Bacon, Inc.
   470 Atlantic Avenue
   Boston, MA 02210

4. Active Learning: Games to Enhance Academic Abilities
   by Bryant J. Cratty
   Prentice-Hall, Inc.
   Englewood Cliffs, NJ 07632

5. Teaching Children with Learning Problems
   by Gerald Wallace & James Kauffman
   Charles E. Merrill, Co.
   1300 Alum Creek Road
   Columbus, OH 43216

6. An Introduction to Learning Disabilities
   by HS Adelman and L. Taylor
   Scott-Foresman, 1986
   Glenview, IL
   $24.95

7. Academic Activities for Adolescents
   by Evalyn James Bailey
   Learning Pathways, Inc.
   PO Box 1407
   Evergreen, CO 80439

8. Children on Medication: Vol. 1 Hyperactivity, Learning Disabilities and Mental Retardation
   by KD Gadow
   College-Hill Press, 1986
   San Diego, CA
   $15.95

9. Children with Emotional Disorders and Developmental Disabilities: Assessment and Treatment
   by M. Sigman
   Grune & Stratton, 1985
   Orlando, FL
   $37.00

10. The Practical Assessment and Management of Children with Disorders of Development and Learning
by Mark L. Wolraich, M.D.
Yearbook Medical Publishers
35 East Wacker Drive
Chicago, IL 60601
$34.95

11. The Clinical Teaching Model: Clinical Insights and Strategies for the Learning Disabled Child
by SG Sapir
Brunner/Mazel, 1985
New York
$25.00

BEHAVIOR MANAGEMENT BOOKLIST FOR PARENTS

1. The Critical Years: A Guide for Dedicated Parents
   By Doris E. Durrell
   New Harbinger Publications, 1984
   Suite 305, 2200 Adeline Street
   Oakland, CA 94607
   $9.95 Paperback

(The underlying theme of the book is primary pervention rather than crisis intervention for the first three years.)

2. Little People
   by E. Christophersen
   Pro-Ed, 1982
   Industrial Oaks Blvd
   Austin, TX 78735

3. Parents are Teachers: A Child Management Program
   by Wesley C. Becker, Ph.D.
   Research Press, 1971
   2612 North Mattis Ave.
   Champaign, IL 61820

4. Families-Revised: Applications of Social Learning to Family Life
   by Gerald R. Patterson
   Research Press, 1975
   2612 North Mattis Ave.
   Champaign, IL 61820

5. Living with Children
   by Gerald R. Patterson
   Research Press, 1976
   3612 North Mattis Ave.
   Champaign, IL 61820

6. Ice Cream, Poker Chips and Very Goods: A Behavior Modification Manual for Parents
   by David L. Williams & Elliot B. Jaffa
   The Maryland Book Exchange, 1971
   4500 College Avenue
   College Park, MD 20740

7. SOS! Help for Parents: A Practical Guide for Handling Common Everyday Behavior Problems
   by Lynn Clark, Ph.D.
   Parents Press
   $8.95 + 1.50 (shiping)
   (ISBN 0-935111-16-6)
   PO Box 2180-P
   Bowling Green, KY 42102-2180

8. Siblings Without Rivalry: How to Help Your Children Live Together So You Can Live Too
   by Mazlish and Adele Faber
   $14.95 Norton Press

9. Now to Talk So Kids Will Listen & Listen So Kids Will Talk
   by Mazlish and Adele Faber
   Norton Press

10. In Spite of My Resistance, I've Learned From Children
    by Thomas C. Lovitt

11. Teach Your Child Decision Making: An Effective, Eight-Step Program for Parents To Teach Children of all Ages to Solve Everyday Problems and Make Sound Decisions
    by JF Clabby and MJ Elias
    Doubleday, 1986
    Garden City, New York
    $16.95

12. How to Talk to Children About Really Important Things
    by CE Schaefer
    Harper & Row, 1984
    New York
    $12.95

13. Toughlove: A Self-Help Manual for Parents Troubled by Teenage Behavior-Revised 1984
    by Phyllis and David York
    PO Box 1069
    Doylestown, PA 18901
    TOUGHLOVE Telephone: (215) 348-7090

14. Toughlove: A Self-Help Manual for Kids, 1984 Edition
    by Phyllis and David York
    PO Box 1069
    Doylestown, PA 18901
    TOUGHLOVE Telephone: (215) 348-7090

15. How to Survive Your Adolescent's Adolescence
    by RC Kolodny, NJ Kolodny, T Bratter and C Deep
    Little, Brown and CO
    Boston, MA
    $17.95

BEHAVIOR MANAGEMENT BOOKLIST FOR PROFESSIONALS

1. SOS! Help for Professionals Kit (includes one copy of SOS! Help for Parents) by Lynn Clark, Ph.D.
   Parents Press
   $27.95 + $3.00 (shipping)
   PO Box 2180-P
   Bowling Green, KY 42102-2180
   (kit ISBN 0-935111-24-7)

2. Series of Behavior Modification
   How to Use Systematic Attention and Approval
   How to Use Planned Ignoring (Extinction)
   How to Use Time Out
   How to Use Overcorrection
   by R. Vance Hall, Ph.D. & Marilyn C. Hall, Ed.D.
   Copyright 1980, H & H Enterprises, Inc.

3. Changing Children's Behavior
   by John D. Krumboltz & Helen B. Krumboltz
   Prentice-Hall, Inc. 1972
   Englewood Cliffs, NJ 07632

4. Behavioral Management: Strategies & Techniques
   by Susan K. Peterson & Henry Tenenbaum
   University Press, 1986
   4720 Boston Way
   Lanhan, MD 20706

** (Complex reading-requires prior knowledge of behavior modification techniques.)

5. Structuring Your Classroom for Academic Success
   by Stan C. Paine
   Research Press Co., 1983
   2612 North Mattis Ave.
   Champaign, IL 61821

6. Classroom Management for Elementary Teachers
   by Carolyn M. Evertson, Edmund T. Emmer, Barbara S. Clements, Julie P. Sanford, Murry E. Worsham
   Prentice-Hall, Inc., 1984
   Englewood Cliffs, NJ

7. Teaching Children with Learning and Behavior Problems
   by Don Hammill & Nettie Bartel
   Allyn & Bacon, Inc.
   470 Atlantic Avenue
   Boston, MA 02210

8. Children on Medication: Vol 1 Hyperactivity, Learning Disabilities and Mental Retardation
   by KD Gadow
   College-Hill Press, 1986
   San Diago, CA
   $15.95

9. Children on Medication: Vol II Epilepsy, Emotional Distrubance and Adolescent Disorders
   by KD Gadow — College-Hill Press, 1986, San Diego, CA, $17.95

10. Children with Emotional Disorders and Developmental Disabilities: Assessment and Treatment
   by M. Sigman — Grune & Stratton, 1985, Orlando, FL, $37.00

11. Hyperactive Children Grow Up
   by G. Weiss and LT Hechtman — Guilford, 1986, New York, $32.00

12. Children and Behavior Therapy
   by AM Graziano and KC Mooney — Aldine, 1984, New York, $29.95

13. Cognitive-Behavioral Therapy for Impulsive Children
   by PC Kendall, L Braswell — Guilford, 1985, New York, $20.00

14. Behavior Modification with Exceptional Children: Principles and Practices
   by RJ Morris — Scott-Foresman, 1985, Glenview, IL, $14.95

15. Alternatives to Punishment: Solving Behavior Problems with Non-Aversive Strategies
   by LaVigna and Donnellan — Institute for Applied Behavior Analysis, 1840 Imperial Highway, Los Angeles, CA 90047, $27.50

9. Children on Medication: Vol II Epilepsy, Emotional Distrubance and Adolescent Disorders
   by KD Gadow
   College-Hill Press, 1986
   San Diego, CA
   $17.95

10. Children with Emotional Disorders and Developmental Disabilities: Assessment and Treatment
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